THE RELATIONSHIP BETWEEN RISK FOR DRUG ABUSE AND MEANING IN LIFE

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TABLE OF CONTENTS

List of Tables

List of Appendices

THE RELATIONSHIP BETWEEN RISK FOR DRUG ABUSE AND MEANING IN LIFE

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Drug abuse continues to be one of the most significant problems in the United States today. Attempts to understand drug abuse have produced numerous multidimensional prevention and treatment models. These models have resulted in the identification of psychological, social and biological risk factors related to drug abuse. In this study, the risk for drug abuse was assessed in 311 college students. A questionnaire was developed to measure risk. The questionnaire assessed risk for abuse predicted by the following factors: academic performance, coping and psychological health, religiosity, family and peer drug use, and the individual's past and current drug use. Based on their risk scores students were placed into low, medium, or high risk groups. The participants also completed the Purpose in Life Test and Life Attitude Profile-Revised questionnaire which measured meaning in life. The results indicated that high risk students scored significantly lower on the global and composite scores of meaning in life.

Consistent with the theories of Viktor Frankl, a lack of meaning in life and existential vacuum were related to risk for drug abuse. The results of this study suggest that lack of meaning in life may be an important contributing factor to drug abuse. These data suggest that meaning in life is a relevant issue to be considered in the prevention and treatment of drug abuse.

Chapter 1

INTRODUCTION

Drug abuse and drug dependence represent significant social problems in the United States today. Federal intervention increased in 1972 when President Nixon began the war against drug abuse (Skolnick, 1994). In recent history President Reagan and Bush escalated the war against drug abuse, and President Clinton has continued to commit billions of dollars to reduce the incidence of drug abuse. Funds have been provided in the areas of enforcement, prevention and treatment. However, the effectiveness of the multibillion dollar two decade old war on drugs is open to interpretation. One view is that these government initiatives have resulted in victory; the war is over. Data from the Monitoring the Future High School Seniors Survey, 1992, indicates use in the last 30 days of any drug other than alcohol, cigarettes or marijuana is relatively rare (Johnston, O'Malley, & Bachman, 1993), and this is often cited as evidence of the effectiveness of recent drug prevention strategies. An examination of illicit drug use and alcohol use among high school seniors over the past decade generally indicates a decline in drug use (Ray &

Ksir, 1993). National survey data of teen and adult drug use in the last 30 days are consistent with the high school senior data--that is, the 1980's and early 1990's represent a time of declining drug use (National Institute on Alcohol Abuse and Alcoholism, 1992). Yet, a second view suggests that the war on drugs is far from over. The recent reports of decline are seen as encouraging but not signaling an end to the drug problem in the United States. Drug abuse and dependence continue to negatively impact the health of millions of Americans. Drug abuse continues to adversely affect the economy and contributes to numerous social ills.

Evidence for this negative effect is seen in the annual loss of life reported in the Drug Abuse Warning Network statistics. In 1990 cocaine and heroin were related to 4,459 deaths and 114,239 emergency room visits (National Institute on Drug Abuse, 1991). The loss of life associated with illicit drugs pales in comparison to the loss of life associated with the two major legal recreational drugs: alcohol and tobacco. It is estimated that more than 400,000 premature deaths are associated with cigarette smoking (American Cancer Society, 1990) and about 100,000 due to alcohol (National Institute on Alcohol Abuse and Alcoholism, 1990). Alcohol abuse contributes to premature death by causing diseases such as alcohol cirrhosis and increasing the risk for traffic fatalities and other types of accidents.

In addition to the loss of life and numerous adverse health consequences for the individual, drug abuse adversely affects the economic condition of the United States. There is a loss of productivity and increased health care costs associated with illicit and legal drug abuse. Consider the drug tobacco which is associated with an estimated 65 billion dollars in health care costs and loss of productivity (American Cancer Society, 1990). In an effort to reduce illicit drug abuse the federal government alone, since 1980, has spent more than 100 billion dollars to fight the war on drugs (Office of National Drug Policy, 1994). These significant negative economic factors have contributed to a renewed interest in legalization and taxation of illicit drugs.

Drug abuse also contributes to many of the major social problems in the United States. Alcohol when abused is related to homocide, physical and sexual abuse and suicide (National Institute on Alcohol Abuse and Alcoholism, 1980). Carroll (1993) estimates that 76 million Americans "have been exposed to family problem drinking: endangered physical, mental, social, economic, and spiritual welfare; unhappy marriages; broken homes; desertion; divorce; impoverishment; and even violence involving both spouse and child abuse" (p. 54). As in any war, it is often the innocent children who suffer the most adverse consequences. The war on drugs has not protected children from physical

and sexual abuse nor protected the developing fetus from the devastating effects of maternal cigarette smoking, cocaine and alcohol abuse. Illicit drugs such as cocaine and heroin are related to theft, prostitution, sexually transmitted diseases, including HIV infection.

An examination of these factors would lead most prudent individuals to conclude that the war on drugs has not been a complete victory. Drug abuse still endangers the health and lives of millions of people in the United States. Economic and social problems are multiplied by drug abuse and dependence. It is at best naive to think that in two decades a problem that has existed for all of recorded history could be completely eradicated. Humans have always experimented with psychoactive substances. Often the experimentation has been related to religious ritual or simply constituted recreational use of a drug without any adverse consequences. However, history also suggests the propensity for abuse. Drug "epidemics" have come and gone throughout the centuries: the gin epidemic in England during the 1700's, opium addiction in China during the 1800's, morphine addiction in the United States in the 1800's, and more recent drug epidemics in the United States, suggesting that drug abuse is a problem which spans centuries and continents (McKim, 1991; Ray & Ksir, 1993). The drugs of choice change, societal responses change, but

the human's fascination with psychoactive drugs is a constant.

In the last few years of the 20th century there is an opportunity to positively impact the health of the country with a drug abuse reduction program that will be effective. Hopefully, recent historical declines in drug use will continue. Yet, data collected in 1993 suggest "that illicit drug use is consistently up for 8th , 10th, and 12th graders for most of the drugs measured" ("Adolescent Illicit Drug Use Increases," 1994, p. 1). Further, the authors concluded that there is currently "an erosion of antidrug attitudes by youth" (p. 2). Additionally, there is evidence that emergency room visits related to cocaine and heroin are on the increase along with increases in hallucinogenic use ("And Still the Drugs Sit There," 1994). In the review of the current patterns of drug use the author concluded:

> The lesson seems a straightforward one. Since 1980 America has spent more than $100 billion in the war on drugs. Despite that, cocaine, heroin and marijuana are as available and as inexpensive as ever. Drug use fluctuates, but it is not going away. Indeed, surveys show that young people now seem increasingly tolerant of drugs and less worried about the health effects of them, if used in moderation. And yet Bill Clinton, who as a candidate talked about more emphasis on drug

> education and prevention, and about giving addicts 'treatment on demand,' has proposed a drug-fighting plan that looks almost identical to the ones put forward by his Republican predecessors (p. 28).

Of course, one alternative to the existing war on drugs is to legalize drugs. Some drug experts and health professionals are calling for the legalization of drugs. Grinspoon and Bakalar (1994) of the Harvard Medical School suggest that government should reduce its penalties for drug possession, further relax the drug laws passed in the last 20 years, and eventually legalize marijuana and other drugs considered to have a fairly low level of risk for addiction. Legalization represents a viable alternative to present societal drug problems.

The focus of this research is, however, to emphasize the role of education and prevention. Grinspoon and Bakalar (1994) support legalization of drugs but also advocate the use of federal funds for prevention and treatment. Kleber (1994) favors reform but does not support legalization of drugs. He believes that the best opportunity for change in the near future would include "expanded and improved treatment, improved prevention, modification of existing laws, and more research" (p. 363-364).

The development of effective prevention is inextricably tied to research. Kleber (1994) explains: "Improvement of

treatment and prevention requires a much larger investment in research. It is a disgrace that so little money is currently being spent for research and that recent increases have been lower than annual increases in the cost of living" (p. 364). The present study contributes to the body of knowledge in the etiology of drug abuse and as such may be used to develop more effective prevention and treatment responses. In a field of contradicting views, there is agreement that prevention and treatment represent one of the best responses to the drug problem in the United States.

Purpose of the Study

The study was conducted to examine the relationship between meaning in life and risk for drug abuse. Recent studies indicate that meaning in life is lower for those receiving treatment for drug dependence when compared to a non-drug-dependent control group (Nicholson, Higgins, Turner, James, Stickle, & Pruitt, 1994). This thesis is actually a follow-up to the Nicholson et al. (1994) study with the purpose of examining meaning in life in a nonclinical, but at-risk sample of college students. Therefore, the methods of the thesis are similar to those used in the Nicholson study.

Need for the Study

Drug abuse continues to adversely impact society. An understanding of the etiology of drug abuse could facilitate more effective treatment and prevention approaches. The

etiology of drug abuse appears multifaceted (Carroll, 1993). There is no one theory that adequately explains drug abuse and dependence. Social, biological and psychological factors influence drug taking behavior.

The present study was focused on the psychological dimension of drug abuse. Since the goal of the researcher was to provide information that could be used in prevention, an emphasis on the psychological dimension seemed appropriate. One psychological factor that has received little attention in the literature is Frankl's (1959) concept of meaning in life. Frankl hypothesized that drug addiction and other psychological problems could be explained in terms of a sense of meaninglessness experienced by the individual. Interestingly, 12 step treatment approaches place a great deal of emphasis on spiritual and existential concerns related to meaning in life. But prevention programs have not typically emphasized the spiritual/existential dimension. An examination of meaning in life which seems to be useful in the treatment of drug dependence may also prove to be a helpful component in understanding and preventing drug dependence.

Furthermore, there is a need to more completely understand drug abuse within the college student population. In a survey of college and university presidents, substance abuse was ranked as the greatest problem on college campuses (Carnegie Foundation for the Advancement of Teaching, 1990).

Recent studies seem to substantiate those concerns, reporting that alcohol abuse is a factor in most of the suicides, rapes, and violent crimes on college campuses (Commission on Substance Abuse at Colleges and Universities, 1994). A national survey of 140 college campuses found that 44% of the college students had engaged in episodes of binge drinking and almost 20% were frequent binge drinkers (Welchsler, Davenport, Dowdall, Moeykens, & Castillo, 1994). Thus, research is needed to clarify the psychological factors contributing to the relatively high rate of alcohol and drug abuse among the college population.

Hypotheses

Two hypotheses were tested in the study:

1. There will be no significant difference between the at-risk group and non at-risk group college samples when compared on meaning in life as measured by the Life Attitude Profile-Revised (LAP-R).
2. There will be no significant difference between the at-risk group and non at-risk group college samples when compared on meaning in life as measured by the Purpose in Life (PIL) test.

Delimitations

The study was conducted during the spring semester 1995 with college students enrolled at Western Kentucky University and David Lipscomb University.

Limitations

There are four major limitations associated with the study:

1. The external validity of the study is limited since the subjects were college students at two southeastern universities. These data, therefore, could not be generalized to the population of all college students or the adult population in general.
2. These results are limited to individuals who have never spent time in a drug treatment facility. That is, subjects who have spent time in outpatient or inpatient drug treatment were excluded from the study.
3. The construct validity of the study is also an area of concern. It is very difficult to objectively measure the hypothetical construct of meaning in life. However, with the use of an operational definition and the best assessment instruments available, the researcher attempted to quantify meaning in life. Additionally, the instrument used to measure risk for drug abuse has not been assessed to determine its validity.
4. It is also important to emphasize that the subjects identified as at-risk for drug abuse/dependence were not observed for years to see if they actually developed drug problems. A longitudinal study would be

necessary to identify which of the subjects actually developed serious drug problems.

Assumptions

It was assumed that

1. The subjects in the study accurately and honestly completed the meaning in life questionnaires: LAP-R and PIL.
2. The subject's self-reported responses used to measure risk for drug dependence were accurately and honestly completed.
3. The subjects accurately and honestly completed the Short Michigan Alcoholism Screening Test (SMAST).

Definitions

In order to ensure consistence in usage, several key terms are defined for purposes of the thesis.

Drug Abuse

Drug abuse is characterized by symptoms that have occurred for at least a month or have occurred consistently over an extended time period. These symptoms have resulted in putting the person in a hazardous situation and/or resulted in social, occupational, psychological or physical problems related to the use of the particular drug (American Psychiatric Association, 1987).

Drug Dependence

A diagnosis for drug dependence requires that the person experience at least three of the following: larger

amounts of the drug are taken, inability to control the drug use, much time spent in obtaining the drug, frequent intoxication, social life or job negatively impacted by the drug use, continued use in spite of problems, tolerance, withdrawal, taking drugs to relieve withdrawal (American Psychiatric Association, 1987). These symptoms must be present for more than one month or have occurred repeatedly over the years. In this thesis the terms drug addiction and drug dependence will be used interchangeably. Alcoholism refers to alcohol dependence, specifically.

Meaning in Life

In this thesis, meaning in life refers specifically to the concept proposed by Frankl (1959). Meaning in life refers to the individual's search for his/her reason for existence. Meaning is discovered by work and creativity, interpersonal relationships and "the attitude we take toward unavoidable suffering" (p. 133).

Risk Factors

A risk factor in this thesis is any factor that occurs before drug abuse but is "associated statistically with an increased probability of drug abuse" (Hawkins, Catalano, & Miller, 1992, p. 65). These factors, thus, increase one's probability for drug abuse and drug dependence.

Chapter 2

REVIEW OF LITERATURE

A number of models have been proposed to explain the etiology of drug abuse. These models also serve as the foundation for the development of treatment and prevention strategies. Most health professionals believe that no one model completely explains the etiology of drug abuse. Current research acknowledges the role of multiple psychological, social and biological factors which may impact drug abuse and dependence. However, psychological factors are of prime importance in this thesis and are discussed in greater detail than the social and biological factors. The psychological models are drawn from the four dominant paradigms in psychology: psychodynamic, behavioristic, humanistic, and cognitive.

Models of Drug Dependence

Psychological Models

The psychodynamic theories focus on the role of the unconscious mind and arrested psychosexual development as the primary contributing factors in drug dependence. Drug dependence is thus a symptom representing a more complex psychological problem. The psychodynamic model, for

example, would explain alcoholism as a problem of psychosexual development, specifically one of oral dependency (Sarason & Sarason, 1987). As an outgrowth of the psychodynamic model other drug dependent personality theories have been proposed. Significant research has been conducted for the purpose of identifying the addictive personality. Longitudinal research has identified personality attributes associated with individuals, particularly males, who become alcoholics (Barnes, 1979). But the clear identification of an addictive personality appears to have eluded researchers. According to Maisto, Galizio, and Connors (1991),

> if abusers of a particular substance were a homogeneous group, it theoretically would be easier to understand or change the drug use patterns of that group. Unfortunately, there are significant individual differences among drug abusers. Further, research has not provided strong support for the 'drug abuser personality' hypothesis (p. 361).

In contrast, behaviorism emphasizes a learning approach to understanding the etiology of drug dependence. Various learning and conditioning theories have been proposed to explain drug dependence. One of the most useful behavioral approaches emphasizes the role of reinforcement. Drugs are powerful reinforcers. Therefore, some drug abuse may be

explained by positive reinforcement: the drugs produce euphoria or other desirable benefits for the user. Drug dependence in some cases may be maintained by negative reinforcement: the drug serves to remove a noxious stimulus, i.e., the withdrawal symptoms (Ray & Ksir, 1993). The behavioristic model has provided classical conditioning treatments like Antabuse treatment and operant conditioning techniques which emphasize reinforcement and punishment.

The cognitive approach extended these behaviorally based techniques to include thinking and belief. Mahoney (1974) reviewed the early cognitive techniques: covert counterconditioning, thought stopping, and covert sensitization which were closely tied to the theories of classical conditioning but now were applied to cognition. More recent approaches have focused on the information processing and irrational thinking of the person. Ellis (1970) pioneered the emphasis on restructuring the thinking of the person. In his view, the source of the problem is the irrational thinking or belief of the drug abuser. The aspects of decision making and problem solving represent another dimension of the cognitive approach (Mahoney, 1974).

Finally, the humanistic approach focuses on the self and the choices the person makes which lead to a self-actualized existence. According to Burger (1993) humanistic psychology "developed from existential philosophy, which is decidedly European in flavor, and the work of some American

psychologists, most notably Carl Rogers and Abraham Maslow" (p. 322). In treatment the humanistic therapist helps the client come to terms with the drug problem within a supportive, growth oriented environment (Poley, Lea, & Vibe, 1979).

Biological Models

These psychological models serve to explain drug dependence from the intrapsychic condition of the individual. The internal world is also a biological world, dominated by biochemical changes which take place at the synapses in the brain. Drugs alter the chemical balance at the synapse. Perhaps it is these genetic, and biochemical factors that predispose one to self medication. A number of newer biological explanations have been proposed to account for drug dependence specifically related to alcohol dependence.

Evidence suggests that there is a genetic predisposition associated with alcoholism. Research by Smith et al. (1992) is promising as specific genes are identified that increase one's risk for alcoholism or other types of drug abuse. Additional studies are needed to replicate the Smith et al. (1992) findings. The genes also indirectly influenced alcohol consumption because they control the enzyme activity involved in the metabolism of alcohol. For example, individuals who have low amounts of

acetaldehyde dehydrogenase are more likely to have an adverse reaction to alcohol (Reed, 1985).

Another facet of biological research has linked monoamine oxidase levels, sensation seeking and alcoholism (Cloninger, Sigvardsson, & Bohman, 1988; Tabakoff & Hoffman, 1988). These researchers suggest that personality is directly linked to the biochemistry of the brain. Therefore, some individuals with these biochemical deficits are more likely to experiment with drugs like alcohol and when they experiment are more likely to become addicted. There is a need for research to more fully explain the possible links between brain biochemistry and addiction.

Sociocultural Models

The biological model is important in understanding addiction. However, this model alone will not provide all of the answers in understanding addiction. The third major model examined is the sociological or sociocultural which examines the problem of addiction from a group rather than individual perspective. Behavior is determined not only or even primarily from internal psychological/biological factors but is understood only within a social/cultural context. It is well documented that some ethnic groups have more drug related disease and disability (U.S. Department of Health and Human Services, 1992). Of course, the cultural and genetic theories cannot be separated when examining different ethnic groups. But obviously, the role of the

family, friends, and culture can influence the development of drug abuse and dependence. The social group contributes to the development of attitudes and values toward drugs. Thus, successful treatment and prevention modalities must emphasize an examination of cultural attitudes, beliefs and values.

A brief overview of the psychological, biological, and sociocultural models indicates that these models are inextricably intertwined. Addiction must be understood within a multicausality, interdisciplinary approach. The discipline of public health has long understood and promoted multicausal models.

Public Health Model

One comprehensive model, the public health model, has attempted to integrate the causal factors explaining addiction in an interdisiplinary manner. Health educators must deal with the drug problem with the biological, psychological and social dimensions all being considered. As health professionals develop prevention programs they address the individual and society. This public health perspective is vital for understanding the etiology of substance dependence. Such a model, perhaps, provides the best opportunity to promote prevention and treatment. The public health model has provided roots for many specific theories. For the purposes of this research two will be discussed because of their importance in integrating drug

dependence etiology models. The epidemiological and PRECEDE models are valuable ways to study the etiology of drug abuse. Carroll (1993) refers to the "public health prevention model" (p. 420) which is a restatement of an epidemiological perspective: host, agent and environment. The host factors include those psychological and biological factors at the individual level. The agent factors include the specific effect of the drug and aspects of availability of the drug. The environmental factors include specific social factors that impact the abuse of drugs. This model promotes integration. Instead of biologist, psychologist and sociologist pursuing different avenues, the health professional analyzes each of these three factors to understand and prevent drug abuse.

An example of another public health integrative model is Predisposing, Reinforcing, and Enabling Constructs in Educational Diagnosis and Evaluation (PRECEDE) model. In addition to other factors, this model emphasizes "predisposing," "reinforcing," and "enabling factors" which are a part of "educational and organizational diagnosis" (Green & Kreuter, 1991, p. 151). The predisposing factors may include information on attitudes, beliefs and values that the target group holds regarding drug abuse. The enabling factors include resources and skills that allow abusive behavior to be carried out. Reinforcing factors, such as encouragement and support from others, provide for

the behavior to continue. Once these factors are fully understood a prevention program can be implemented. Additionally, the PRECEDE model allows for evaluation of the program. Without evaluation it is impossible to refine treatment and prevention.

Thus, public health continues to be at the forefront of an integrative, interdisciplinary approach to the study of drug dependence and other health problems. These public health models represent one of the best hopes for understanding the etiology of drug abuse resulting in effective treatment and prevention strategies. Specific public health theories developing within the field remain true to the multicausality analysis.

Drug Abuse Risk Factors

This multicausality perspective is necessary for the examination of drug dependency risk factors. These risk factors identify those who are at increased risk for drug abuse or dependence. Theoretically, the identification of risk factors could play an inportant role in effective treatment and prevention. An analysis of the risk factors literature was essential to the development of the present research study.

Numerous investigators have attempted to identify risk factors for alcohol and drug dependence. Interestingly, a review of the literature over the last ten years indicates fairly consistent findings. In the last decade there has

been an emergence of the correlates of risk for drug problems. This line of research needs to continue so that early intervention approaches may be developed. Instead of just giving drug information to teens, effective early intervention and prevention strategies are possible when at-risk children and adolescents are identified. One recent report considers risk factor identification a national research priority in the study of drug abuse. The first research need cited in the report, as a way to reduce drug related death and disability, stated that research must continue in "The interaction of biological, family (parental and modeling), environmental, and psychological processes that are associated with the risk of, or resistance to, using alcohol and other drugs and the transition from use to abuse of drugs" (U.S. Department of Health and Human Services, 1992, p. 180).

Research in risk assessment has generally proceeded in two directions. The first is the identification of general risk factors related to the abuse of any drug. The second focus has endeavored to identify risk factors for a specific drug, i.e., alcohol, cocaine, hallucinogens, etc. (Leavitt, 1982). The focus of this literature review and study was on general risk factors which apply to drug use and predict the change from use to abuse. A pattern of risk emerges from the review of the literature. Blum (1984) in a summary of the literature identifies "peer influence, parental

influences, low academic levels, school absences, involvement in delinquent activities, depression, alienation, rebelliousness, radical political ideology, lack of religiosity" (p. 22) as the predictors of alcohol or illicit drug use. Waldinger (1986) summarized factors which predict drug abuse and listed the following: "genetic background, childhood environment, culture, socioeconomic status, mental illness" (pp. 305-306). In another summary of risk factors for drug abuse, White (1991) reviewed studies that indicated impulsivity, anxiety, depression, low self-esteem, and less social conformity were all correlated with drug abuse.

In a comprehensive study of 3000 junior high and high school students in California, Newcomb, Maddahian, Skager, and Bentler (1987) reported risk factors for legal and illegal drug use consistent with the typical risk factors found in substance abuse texts and literature reviews. The risk factors they identified involved family and peer situations where drug use was perceived to be approved. The at-risk students were also less successful in school and lacked the academic aspirations of the non-risk students. These at-risk adolescents were not religiously committed and were in some ways dissatisfied with life and experienced emotional distress. In a related analysis of their data, Newcomb, Maddahian, and Bentler (1986) identified the highest correlates of risk to be "peer drug use (.41),

(.31), adult drug use (.30), early alcohol use (.22), sensation seeking (.16), poor relationships with parents (.16), low religiosity (.13), poor academic achievement (.11), psychological distress (.09), poor self-esteem (.07)" (p. 527).

However, the most complete risk assessment review was conducted by Hawkins, Catalano, and Miller (1992) which included references to more than 300 sources. In their analysis seventeen risk factors were reviewed. They noted that laws and social norms that produce a social climate favorable to drug abuse, increase the risk for adolescents. Also the availability of the drugs is a related risk factor. Socioeconomic factors like extreme poverty and the disorganization of neighborhoods were also discussed. Additionally, physiological and family relationships were other contributing factors to drug abuse. They also noted that behavioral problems in childhood, lack of academic success, lack of commitment to school, and feelings of rejection by peers could contribute to drug abuse.

Synthesis of Risk

There is consistency in the risk factor literature. Yet, the literature becomes very complex and of little use without an organizational or theoretical framework. One way to simplify the data is to consider biological, sociological, and psychological risk factors. Hawkins, Catlano, and Miller (1992) organized the risk factors into

"contextual factors" which included four ("laws and norms favorable toward behavior, availability, extreme economic deprivation, neighborhood disorganization") and "individual and interpersonal factors" which included thirteen factors ("physiological factors, family alcohol and drug behavior and attitudes, poor and inconsistent family management practices, family conflict, low bonding to family, early and persistent problem behaviors, academic failure, low degrees of commitment to school, peer rejection in elementary grades, association with drug using peers, alienation and rebelliousness, attitudes favorable to drug use, early onset of drug use") (pp. 65-85). However, neither of these organizational frameworks facilitates a complete conceptual framework from which prevention, education, and treatment can evolve.

For the purposes of this study, the PRECEDE health model served to provide the conceptual framework (Carroll, 1992; Green & Kreuter, 1991). All of these risk factors can be considered as predisposing, enabling or reinforcing. This model provides a way to diagnose the health problem in an individual or community and furthermore provides a means to implement and evaluate prevention/treatment strategies.

The predisposing factors to drug abuse include biological, personality, and family influences. The individual may have biological or personality factors which predispose him/her to drug abuse. Family situations

including lack of family bonding may also predispose a child to drug abuse.

The enabling factors include most of the contextual factors reviewed by Hawkins, Catalano, and Miller (1992). When drugs are available and laws and social norms allow for availability and use, the adolescent finds it easier to get involved with drugs.

The reinforcing factors from peers, family dynamics and culture encourage the continued use of the drug. By identifying these three factors and understanding the interdependence of the factors, health professionals will be better able to identify the risk factors for drug abuse and to develop prevention approaches.

Meaning in Life

One risk factor which has been identified by some investigators is meaning in life. This risk factor is a major component of the present research study. Thus, it is important to address this proposed risk factor in more detail. It is not identified as a major risk factor in the literature, but some investigators have reported that meaning in life is potentially a significant risk factor.

Meaning in life is one component of a broader existential psychology perspective. Philosophically, existential psychology, like humanistic psychology, owes its origin to the existential philosophy of Kierkegaard and Heidegger (Maddi, 1976). Maddi further suggests that

contributions to an existential psychology of personality were made by Ludwig Binswanger, Medard Boss, Viktor Frankl, Rollo May and Paul Tillich. All of these individuals present different views of existentialism, and it is difficult to summarize existentialism. But Maddi presents this excellent analysis:

> It is no mean feat to state a core tendency for existential psychology in a few words. Not only is there the difficulty of many different voices, all using slightly different words, there is also the complication that the words are often poetic, metaphoric, seeming sometimes to have polemic emotional intent rather than that of intellectual precision. What is clear, however, is the emphasis on being genuine, honest, true, and on making decisions and shouldering responsibility for them. All in all, an apt phrasing on the core tendency might be to *achieve authentic being*. The word being, or existence, or *Dasein* (to use the German) is pregnant with meaning for the existentialist. It does not refer to some passive creatureness, though it partially includes this. Rather, it signifies the special quality of existing characteristic of humans, a quality that heavily involves mentality, intelligence, and awareness. The adjective authentic is meant to carry some of

> these connotations, and also to indicate the emphasis of existential psychology on honesty, a stance difficult to manage due to the inherently frightening and demanding nature of life. More often than not, according to existentialists, people shrink from authenticity (pp. 124-125).

One of these existential psychologists, Viktor Frankl (1959), is extremely important in understanding the concept of meaning in life. Certainly, he is not the only existentialist to deal with meaning. He has, however, written extensively on the subject of meaning in life and his existential view has produced a specific therapeutic intervention. Many of the existential views are so philosophical that actual psychological applications are limited. In the horrible circumstances of the Nazi death camps Frankl concluded, "man can preserve a vestige of spiritual freedom, of independence of mind, even in such terrible conditions of psychic and physical stress" (p. 86). It is his thesis that humans struggle to find meaning in life. When attempts to find meaning are consistently thwarted "noogenic neuroses" may develop (p. 123). These neuroses are really symptoms of an underlying existential conflict. Thus, Frankl argues that traditional psychotherapies will not be successful in alleviating these neuroses.

Another existential condition, the "existential vacuum," (p. 128) also contributes to problems in mental health. Individuals who do not have a clear purpose in life find their lives filled with boredom. Consequently, individuals try to fill their lives with something: power, money, sexual conquest. Frankl suggests: "such widespread phenomena as depression, aggression and addiction are not understandable unless we recognize the existential vacuum underlying them" (p. 129).

It is clear that Frankl (1959) theoretically hypothesized that drug dependence is another pathological manifestation of meaninglessness in life. In examining post-modern society he writes, "In fact, the drug scene is one aspect of a more general mass phenomenon, namely the feeling of meaninglessness resulting from a frustration of our existential needs which in turn has become a universal phenomenon in our industrial societies" (p. 164).

In his book Doctor and the Soul (1955) he again argues for the causal relationship between existential meaninglessness and addiction, writing:

> One can, for example, at a festival, take a leave of absence from one's responsible life and consciously seek self-forgetfulness in intoxication ... vast numbers of human beings who, hard at work all week long, on Sundays are overwhelmed by the emptiness and lack of content

> of their lives, which the day of idleness brings into consciousness. Victims of 'Sunday neurosis,' they get drunk in order to flee from their spiritual horror of emptiness (p. 28).

This global theorization is common among European philosophers and psychologists. However, the psychology and health education areas of study in the United States have been influenced by empiricism and behaviorism which demand that data accompany the theory. Are there "hard data" supporting Frankl's philosophical speculation? In his book The Unheard Cry for Meaning (1978) Frankl cites research by Forstmeyer who found that 90% of the alcoholics she studied reported feelings of meaninglessness and a study by Krippner where 100% of the drug addicts reported a sense of meaninglessness. In my review of Frankl's work there is only limited empirical documentation for his theory. Yet, there are interested researchers who are attempting to determine whether the theory can be supported by a more traditional scientific analysis.

Most of the research generated by Frankl's collegues, relating to addiction, has focused on the treatment aspects of addiction. His treatment approach, Logotherapy, fits philosophically with a 12-step Alcoholics Anonymous Model since the 12-step model of treatment addresses meaning in life issues and responsibility. Several investigators have found evidence to support the effectiveness of Logotherapy

as a treatment approach for addiction (Holmes, 1991; Koster 1991; Henrion, 1987). These articles, however, represent more theoretical and anecdotal perspectives rather than empirical research. It should be noted, however, that existential psychologists do not agree with the philosophical assumptions of empiricism which provide the foundation for experimental research in psychology. Aiken (1993) observed, "Existentialists reject both scientific theories and the notion of causality in explaining human behavior" (p. 182).

The limited attempts to empirically investigate Frankl's theories have been generally positive. Jacobson, Ritter, and Mueller (1977) identified lack of meaning as a factor related to adult alcohol abuse. Nicholson et al. (1994) compared the meaning in life for individuals in a treatment facility for drug dependence and a matched control group of individuals who had no history of drug dependence. There were 49 case subjects who received treatment and 49 control subjects in their study. The case subjects reported significant deficits in meaning in life.

Majer (1992) reported that meaning in life increased as a result of length of time in a 12-step treatment program. The subject's meaning in life was measured for one group early in treatment and for another group near the end of treatment. Majer found significantly higher meaning in life scores for those near the end of treatment. It should be

noted, however, that the groups were very small: 21 subjects in the beginning treatment group and 8 subjects in the end of treatment group. Moreover one cannot assume that the two groups were identical in meaning in life prior to treatment.

In a more systematic study Carroll (1993) with 100 subjects in an alcohol treatment facility examined meaning in life. She found a significant positive correlation between practicing step 11 of the 12 step program and meaning in life scores. Also the length of sobriety was significantly correlated with meaning in life. It appears that research will continue to assess the efficacy of meaning in life issues related to treatment. But the present study addressed meaning in life issues as related to the risk of developing abusive or dependent drinking patterns. The theoretical importance of this study was to expand Frankl's influence into prevention and education of drug abuse. The study also provided another empirical analysis of meaning in life.

Chapter 3

METHODOLOGY

The study was designed to determine the relationship between meaning in life and risk for drug abuse or dependence. Earlier studies have examined aspects of meaning in life within drug addicted samples. The present study, using a convenience sample of college students at two colleges in the Southeastern United States, was designed to ascertain meaning in life among a non-drug addicted sample. Additionally, students were assessed to determine their risk for drug abuse or dependence.

Hypotheses

In the study two hypotheses were tested. The hypotheses are stated below:

1. There will be no significant difference between the at-risk group and non at-risk group college samples when compared on meaning in life as measured by the Life Attitude Profile-Revised (LAP-R).
2. There will be no significant difference between the at-risk group and non at-risk group college samples when compared on meaning in life as measured by the Purpose in Life (PIL) test.

Population

The population of consideration consisted of college students enrolled in colleges during the spring semester 1995 in the United States. The alcohol and drug use of college students in the United States has been an area of concern for health educators.

Sample Selection

Students enrolled at two universities in the Southeastern United States served as subjects in this study. Western Kentucky University, Bowling Green, Kentucky, is a public coeducational regional university enrolling approximately 15,000 students. A convenience sampling technique was employed to select 126 participants from the Western Kentucky student population. The students were enrolled in the undergraduate and graduate health related courses.

David Lipscomb University, Nashville, Tennessee, is a church-related, coeducational liberal arts college with an enrollment of 2300. Using a convenience sampling approach, 185 students served as participants. The students were enrolled in undergraduate psychology classes.

Data were collected at both universities during the spring semester 1995. The subjects completed a consent form before they were allowed to participate in the study.

Design and Procedures

The design compared meaning in life scores between students considered to be at-risk for developing drug abuse/dependence and those who were not considered to be at-risk.

In addition to the consent form, participants completed the Demographic Data form, Life Attitude Profile-Revised, Purpose in Life test, Short Michigan Alcoholism Screening Test, and the Risk Evaluation Inventory. The subjects filled out the questionnaires during a scheduled college class period. The investigator collecting the data read the following statement to the class:

> In the packet you will find five brief questionnaires. Please follow the instructions on each questionnaire and respond appropriately. There are no right or wrong annswers; the researchers are interested in your experiences and opinions. Your accurate and honest responses are appreciated. Most students complete the questionnaires in 25-30 minutes. When you finish the questionnaires, put them into the packet and give them to the researcher. In order to protect your confidentiality, the researcher will remove the consent form from your packet before any data analysis is conducted. Thank you for your participation.

It took approximately 25 minutes to complete the inventories. The investigator collected the completed inventories at the conclusion of the class period.

Instrumentation

Consent Form

The principal investigator is a member of the American Psychological Association (APA); thus the research was conducted in a manner consistent with the ethical guidelines of the APA. Informed consent was obtained from individuals before they were permitted to participate in the study. A copy of the consent form is in Appendix A.

Demographic Data Form (DDF)

The Demographic Data Form simply defines the sample and served to classify the subjects for data analysis. The subjects were identified by the university they were attending; the specific course in which they were enrolled; their gender; ethnic background; and their standing (Appendix B). The DDF also has space for the researcher to list scores the subjects obtained on the major diagnostic instruments.

Short Michigan Alcoholism Screening Test (SMAST)

The original Michigan Alcoholism Screening Test (MAST) was developed by Selzer (1971). The test has been widely used in treatment facilities as a part of the alcoholism diagnostic procedure. One problem with the MAST, however, is a tendency toward false positive scores, but the Short

Michigan Alcoholism Screening Test (Pokorny, Miller, & Kaplan, 1972; Selzer, Vinokus, & Van Rooijen, 1975) seems to be a more accurate test according to Jacobson (1976). The SMAST is presented in Appendix C.

Life Attitude Profile - Revised

The Life Attitude Profile - Revised (Reker, 1992) is a 48-item test to measure meaning in life. Subjects respond to each statement by circling an alternative on the 7-point Likert scale (Appendix D). One advantage of the scale compared to other meaning in life measures is that the LAP-R measures six dimensions of meaning in life: Purpose, Coherence, Life Control, Death, Acceptance, Existential Vacuum, and Goal Seeking.

The test has adequate validity and reliability. The test-retest reliability scores range from .77 to .90 (Reker, 1992). Additionally, the concurrent and construct validity of the test has been examined. The LAP-R is highly correlated with other tests of life meaning, for example, the Purpose in Life test. One composite score of the LAP-R, Personal Meaning Index, correlates .82 with the Purpose in Life Test. The test was chosen to be used in this study because the validity and reliability data make it one of the more useful tests used to measure meaning in life. The test is also closely based on Frankl's concept of meaning in life which is the theoretical construct of life meaning of importance in this research.

Purpose in Life Test (PIL)

The Purpose in Life test is a 20-item 7-point Likert scale instrument (Crumbaugh & Maholick, 1969). This test is also based on the theories of Frankl and is intended to measure Frankl's construct, existential vacuum. The norms of the test are based on 1,151 subjects.

The split-half reliability for the test ranges from .81 to .90. In terms of validity, the test accurately discriminates normal groups from patient populations. Also, the test is correlated with Frankl's questions that he used to determine existential vacuum, r=.68 (Crumbaugh & Maholick, 1969). See Appendix E for the complete test.

Risk Evaluation Inventory (REI)

The investigator searched the literature for an instrument to measure risk for drug dependence. The investigator was looking for a test for which validity and reliability data were available. If such an instrument exists, the investigator did not find it in his literature review. Therefore, it became necessary to construct the Risk Evaluation Inventory (REI). Consistent with the literature reviewed in Chapter Two and considering the specific needs of a college sample, a forty item questionnaire was developed by the experimenter to evaluate risk in six areas: academic performance, coping and psychological health, religiosity, family and friend's drug

use, early and current drug use, and sensation seeking. A complete copy of the instrument is found in Appendix F.

The REI is not intended to be a comprehensive measure of all possible risk factors. The six areas of risk assessed in the REI, however, are consistently identified in the literature as important risk factors (Newcomb, Maddahian, Skager, & Bentler, 1987; Newcomb, Maddahian, & Bentler, 1986; Hawkins, Catalano, & Miller, 1992). Conceptually, the REI follows the methodology of Newcomb, Maddahian, and Bentler (1986) who assessed ten risk factors for adolescent drug use.

The first three questions of the REI assess the academic performance of the respondent. Students with a high school or college GPA of 2.0 or less received a risk point. Students who had been on academic probation received a risk point.

Items 4-7 are related to the coping and psychological health of the individual. Risk points were recorded for subjects who reported that they were often stressed out, depressed quite often or had received prescription medication for depressive or anxiety disorders.

Religiosity was measured in items 8-11 of the (REI). Risk points were recorded for subjects who were not a member of any religious group, rarely got involved with religious activities, attend church rarely or never, and do not have a religious belief that guides their life. Items 10 and 11

were adapted from Allport's (Allport & Ross, 1967) intrinsic/extrinsic religiosity scale.

In the next part of the inventory, items 12-17, risk factors related to family and friends were examined. Risk points were assessed for subjects who reported having a father and/or mother who were heavy drinkers; having family members who use illegal drugs; having a biological relative who is an alcoholic; having close friends who are heavy alcohol drinkers and/or use illegal drugs.

The next questions (18-29) of the REI addressed early and current use by the subjects. Subjects who tried their first drug at fourteen years of age or younger and/or were intoxicated for the first time at sixteen or younger were considered at risk and one point per question was recorded. A risk point was assessed for each illegal drug used in the last thirty days. A risk point for tobacco use was assessed for use 8 days or more during the last 30 days. The same procedure was used to determine a risk point for alcohol consumption. Item 30 is not a part of the risk assessment data but is a screening question to eliminate subjects from the study who have received treatment for drug dependence.

The last section of the inventory, items 31-40 measure sensation seeking (Zuckerman, 1979). These items are the Sensation Seeking Scale - Short Form (Madsen, Das, & Bogen, 1987). The researcher included the entire 10-item scale because of the focus in the literature on sensation seeking

as an important risk factor. Sensation seeking has an intriguing theoretical link to the biological theories of drug abuse (Zuckerman, 1985). The Sensation Seeking Scale was scored, and those scoring six or higher received a risk point for sensation seeking.

In addition to the REI items, the SMAST score was calculated as a part of the risk assessment. The SMAST was included in the final REI score to further enhance the validity of the instrument. Individuals who scored one or more on the SMAST received a risk point added to the REI score. Thus, the final REI score yielded a possible score of 0-31. The emphasis is on the total number of risk factors accumulated without assigning weights to specific risk factors. This approach is consistent with the view of Ray and Ksir (1993) who stated: "The idea is that no one of these factors is critical, but the more risk factors one has, the more likely one is to be a drug user" (p. 13).

The REI was developed for the purposes of this study, and attempts were made to address questions of the validity and reliability of the instrument. First, the items were conceptually derived from the risk factors for abuse literature and consistent with the methodology of the studies in risk assessment literature. The items were constructed so that subjects reported specific behaviors, attitudes or observations. The items appeared to have adequate face validity as reviewed by three experts in

public health and one psychologist. Additionally, twelve of the forty items were derived from existing standardized scales (Sensation Seeking-Short Form, Allport's Intrinsic/Extrinsic Religiosity). Second, the instrument was pilot tested for clarity with a sample of 60 college students. Only minor revisions were suggested by the students. Third, an attempt was made to assess the test-retest reliability of the instrument. Eighteen college students were administered the REI on January 31, 1995. The REI was administered to the same students on February 3, 1995. The reliability correlation was .94 for the REI. The sample was small and the interval short, but it appears that the instrument does have adequate reliability.

Data Analysis

The data sheets were scored and entered into a computer file. Data were analyzed using the Statistical Package for the Social Sciences (SPSSx). In the study, risk served as a subject variable in the sense that subjects were assigned to high, medium, or low risk categories. In terms of data analysis, the measures of meaning in life were the dependent measures.

A multivariate analysis of variance (MANOVA) was performed on the LAP-R scores and PIL score, thereby allowing for the analysis of the six subscale dimensions and the two composite scales.

Thus, the null hypotheses of the study were tested using the MANOVA technique. Additional descriptive statistical procedures and correlations were used to further examine the data.

Chapter 4

RESULTS

A total of 322 data forms were received from the participants. However, the sample for data analysis included 311 subjects; four subjects turned in incomplete data packages and seven were eliminated because they had received treatment for drug abuse.

First the sample of 311 subjects was analyzed with descriptive statistics. Fifty-nine percent of the sample or 185 students were from David Lipscomb University and 41% of the sample represented 126 students from Western Kentucky University. The age of the students ranged from 18 to 66 with a mean of 24.64 years. There were 98 freshman (32%), 58 sophomores (19%), 50 juniors (16%), 87 seniors (28%), and 18 graduate students (6%) in the sample. In regard to ethnic status, the sample was predominantly caucasian (92%), with a small percentage of African-Americans (4%), Asians (3%), and Hispanics (1%). Finally the gender of the sample was 61% female (n=189) and 39% male (n=122).

Next, the correlation coefficients were calculated for the following measures: Purpose (PU), Coherence (CO), Life Control (LC), Death Acceptance (DA), Existential Vacuum (EV), Goal Seeking (GS), Personal Meaning (PMI), Life

Attitude Balance (LABI), Purpose in Life (PIL) and Risk Evaluation Inventory (Risk). Purpose in Life was measured by the Purpose in Life test. The Risk Evaluation Inventory (REI) was developed for this study, and the other measures (except the PIL) were from Reker's Life Attitude Profile-Revised.

These correlations were used to evaluate the construct validity of the LAP-R. The construct validity of the LAP-R was not the focus of this study, but the validity of the LAP-R is crucial to interpreting the results of the study. Table 1 depicts a comparison of Reker's results with the results of the dimension intercorrelations of the LAP-R obtained in this study.

Results in Table 1 indicate a relatively high degree of consistency between Reker's normative sample and the data collected for the present study. The PMI and LABI are composite scores of the LAP-R and are not included in the intercorrelation analysis. Furthermore, Reker reported that the PIL test was significantly correlated ($P \leq .05$) with PU (.75), CO (.77), LC (.67), EV (-.66), PMI (.82) and LABI (.81). Analysis of the current data indicates that the PIL test was significantly correlated ($P \leq .05$) with PU (.72), CO (.62), LC (.45), EV (-.55), PMI (.69), LABI (.71), and DA (.23) which was not statistically significant in Reker's study. These correlations provide additional support for the construct validity of the LAP-R.

Table 1: Comparison of LAP-R Intercorrelations (N=311)

Variable	1	2	3	4	5	6
1. Purpose	—					
2. Coherence	**.73/.75**	—				
3. Life Control	**.42/.54**	**.39/.42**	—			
4. Death Acceptance	**.16/.12**	**.23/.12**	**.19/.16**	—		
5. Existential Vacuum	**-.55/-.60**	**-.39/-.48**	**-.16/-.27**	**-.08/-.04**	—	
6. Goal Seeking	**.04/-.18**	**.07/-.17**	**.16/.10**	**.02/-.03**	**.32/.45**	—

NOTE: Bold represents results from the current study.

Table 2 presents all of the correlations relevant to the study. However, the focus of the study is on the relationship between meaning in life and risk for drug abuse or dependence.

An examination of the specific Risk correlations indicates that the REI scores were significantly correlated ($p \leq .001$) with the following LAP-R scores: PU (-.28), CO (-.35), EV (.31), PMI (-.33), and LABI (-.34). The GS with Risk correlation was .16, $p < .01$. The LC and DA scores were not significantly related to Risk, $p > .05$. Additionally, PIL was also significantly correlated with Risk (-.28), $p \leq .001$).

These correlations are consistent with the prediction that high risk for drug dependence is associated with lower measures of meaning in life. This inverse relationship was observed in five of the seven significant correlations. The significant positive correlation with Existential Vacuum indicates the more one is bored and apathetic the stronger the association with high risk behavior. The goal seeking dimension has elements of sensation seeking which may explain its positive correlation with Risk.

In order to test the specific hypotheses of the study, the subjects were divided into three groups based on their REI score. The REI scores ranged from 0 to 17 with a mean of 4.42. One third of the sample scored between 0 and 2 and were designated low risk. The next third of the sample scored in the 3-5 range and were the medium risk group. The

Table 2: Correlations of All Variables (N=311)

Variable	1	2	3	4	5	6	7	8	9	10
1. Purpose	—									
2. Coherence	.73***	—								
3. Life Control	.42***	.39***	—							
4. Death Acceptance	.16**	.23***	.19***	—						
5. Existential Vacuum	-.55***	-.39***	-.16**	-.08	—					
6. Goal Seeking	.04	.07	.16**	.02	.32***	—				
7. Personal Meaning	.93***	.91***	.43***	.19***	-.50**	.11*	—			
8. Life Attitude Balance	.79***	.74***	.54***	.50***	-.70***	-.19***	.83***	—		
9. Purpose in Life	.72***	.62***	.45***	.23***	-.55***	-.08	.69***	.71***	—	
10. Risk	-.28***	-.35***	-.00	-.09	.31***	.16**	-.33***	-.34***	-.28***	—

*p≤.05

**p≤.01

***p≤.001

Table 3: Frequency Distribution for REI Scores

Value	Frequency	Percent	Cummulative
0	23	7	7
1	35	11	19
2	46	15	**33**
3	44	14	48
4	29	9	57
5	28	9	**66**
6	26	8	74
7	20	6	81
8	24	8	88
9	14	5	93
10	11	4	96
11	6	2	98
12	2	1	99
13	1	0	99
14	1	0	100
17	1	0	100

final third of the subjects, high risk, scored 6 or above. The low risk group consisted of 104 subjects, the medium 101, and the high risk group had 106 subjects. Table 3 presents the frequency distribution for the REI scores.

The results of the various meaning in life scores were then analyzed using the Multivariate Analysis of Variance (MANOVA). There was an overall statistically significant main effect, Wilks' Lambda, $F(8,302)=4.06$, $p<.001$. Univariate analyses indicated the following statistically significant differences for specific measures of meaning in life: PU, $F(2,308)=9.33$, $p\leq.001$; CO, $F(2,308)=18.34$, $p\leq.001$; DA, $F(2,308)=3.44$, $p\leq.05$; EV, $F(2,308)=12.14$, $p\leq.001$; GS, $F(2,308)=5.09$, $p\leq.01$; PMI, $F(2,308)=14.61$, $p\leq.001$; LABI, $F(2,308)=17.84$, $p\leq.001$; PIL, $F(2,308)=10.21$, $p\leq.001$. The LC scale was not significantly related to risk. A summary of these results is presented in Table 4.

An examination of Table 4 indicates that eight of the nine dependent measures were significantly ($p\leq.05$) related to risk. A review of the means and standard deviations indicates a general relationship between high risk and lower meaning in life. However, in order to more specifically determine the exact relationship between risk groups and the various measures of meaning in life, post hoc (Tukey-HSD) analyses were performed for all of the statistically significant univariate ANOVA values.

Table 4: Means, Standard Deviations, and Univariate Results for Meaning in Life Measures

Variable	Low M(SD)	Medium M(SD)	High M(SD)	F(2,308)
1. Life Purpose	43.88(6.83)	42.82 (6.61)	39.67 (8.42)	9.33 ***
2. Coherence	43.51 (6.16)	42.50 (5.54)	38.49 (7.21)	18.34 ***
3. Life Control	44.14 (7.05)	45.42 (6.15)	44.22 (6.37)	1.23
4. Death Acceptance	36.05 (9.41)	36.90 (7.85)	33.75 (9.57)	3.44 *
5. Existential Vacuum	25.74 (8.11)	28.79 (8.42)	31.34 (8.21)	12.14 ***
6. Goal Seeking	41.82 (5.80)	43.67 (7.44)	44.56 (5.67)	5.09 **
7. Personal Meaning	87.29(11.86)	85.57(11.68)	78.26(14.75)	14.61 ***
8. Life Attitude Balance	100.09(23.44)	95.84(23.05)	80.29(28.83)	17.84 ***
9. Purpose in Life	112.18(12.59)	110.59(15.05)	103.42(16.95)	10.21 ***

*p<.05

**p>.01

***p<.001

For these significant ANOVA measures of meaning in life--PU, CO, EV, GS, PMI, LABI, and PIL--post hoc analyses indicated a statistically significant difference ($p \leq .05$) between the means of the low risk group and the means of the high risk group. However, for the DA scores the significant difference was between the medium and high groups.

In addition to the statistically significant differences reported between the high and low groups, there were statistically significant differences between the medium and high risk groups for the following dependent measures: PU, CO, PMI, LABI, and PIL. Furthermore, for the EV measure there was a statistically significant difference between the low and medium risk groups.

The analysis of the data indicate that the null hypothesis related to the LAP-R measures must be rejected. The LAP-R yields six subscales and two composite global measures of meaning in life. The two composite measures indicated statistically significant difference as related to risk group, and five of the six subscales were statistically significant.

The second null hypothesis related to meaning in life as measured by the PIL test is also rejected based on the significant differences that were observed when the data were analyzed.

Chapter 5

DISCUSSION

Meaning in life was significantly related to risk for drug abuse. Consistent with our predictions high risk individuals scored significantly lower on the LAP-R composite measures of Personal Meaning and Life Attitude Balance. Meaning in life scores as measured by the unidimensional Purpose in Life test were also significantly lower for the high risk subjects. Thus, individuals who are at-risk for drug abuse or dependence have generally lower meaning in life scores.

An examination of the subscales of meaning in life measured by the LAP-R further elucidates the relationship between drug abuse risk and meaning in life. High risk individuals scored significantly lower on the following LAP-R subscales of life meaning: Life Purpose, Coherence, and Death Acceptance. In contrast, but consistent with the concept on meaning in life, high risk subjects scored significantly higher on the Existential Vacuum and Goal Seeking subscales. Thus, high risk subjects experienced more Existential Vacuum. High Existential Vacuum indicates an apathy, boredom, and lack of direction and goals in life. Goal Seeking appears to be a measure that is similar to

sensation seeking which was one component of the Risk Evaluation Inventory.

Furthermore, the Pearson correlations with risk and meaning in life tend to reveal the same pattern of results previously discussed. High risk scores were significantly correlated with lower Purpose, Coherence, Personal Meaning, Life Attitude Balance, and Purpose in Life Scores. High risk was positively correlated with higher Existential Vacuum and Goal Seeking scores. There were no significant correlations between Life Control or Death Acceptance and risk. Thus, Purpose, Coherence, Goal Seeking, Existential Vacuum, Personal Meaning, and Life Attitude Balance were the LAP-R dimensions of meaning in life most closely associated with risk. According to Reker (1992) Purpose "refers to having life goals, having a mission in life, having a sense of direction from the past, present, and future" (p. 14). The Coherence dimension is an indication of one's "sense of order and reason for existence" resulting in "a clear sense of personal identity, and greater social consciousness" (p. 15). Goal Seeking is related to "the desire to get away from the routine of life" (p. 19). Existential Vacuum is the dimension which is most closely related to Frankl's theory. Reker considers this dimension to be a measure of "a frustrated 'will to meaning'" (p. 18). Life Attitude Balance and Personal Meaning are composite scores which indicate motivation and degree of meaning in one's life.

In summary, the subscale scores suggest that high risk individuals were more likely to indicate that they did not have clear goals, mission or purpose in life and were more likely to experience frustration in defining personal meaning. This relationship is further indicated by the LABI and PMI composite scores and the global meaning in life measured by the PIL test.

Generally, the findings of this study support Frankl's contention that drug addiction is related to a lack of meaning in life. Without a clear sense of meaning, life is filled with boredom, so addiction becomes one way to fill the void. Specifically, Frankl (1955) suggests that when individuals face the emptiness of life "they get drunk in order to flee from their spiritual horror of emptiness" (p. 28). The results of this study and other recent studies (Carroll, 1993; Nicholson et al. 1994) seem to suggest that issues of meaning in life are very strongly associated with addictive behavior. It is unfortunate that the existential psychologists with a strong philosophical orientation have been reluctant to examine Frankl's theory within the confines of the traditional scientific method. But perhaps the recent reports of the robust relationship between meaning in life and addiction will generate other research to test the efficacy of Frankl's theories.

However, there are difficulties and limitations with the research exploring meaning in life, including the

present study. One major concern is the validity of meaning in life measures. How does one really measure existential vacuum? In this study, two measures were chosen: one unidimensional (PIL), the other multidimensional (LAP-R). Both of these measures have acceptable validity and reliability, but meaning in life remains a highly theoretical construct.

A unique concern of this study was the measure for risk of drug abuse. The instrument was conceptually derived from the review of the risk factor literature and is similar to other instruments which have attempted to measure risk. While the results of this study are encouraging, much additional research is needed to validate the REI so that it can be a useful instrument in the study of drug dependence. But at the present time the true validity and usefulness of the instrument is open to question.

The major limitation of this study is that the design does not allow one to draw causal conclusions. Frankl postulated that a lack of meaning in life is the primary cause of addiction. The results of this study do not determine if these individuals at-risk for dependence and low in meaning in life will actually develop drug dependency. We do know from this study that low meaning in life is associated with major risk factors for drug dependence as identified in the drug abuse literature. Additionally, we do know that individuals in drug treatment

programs have a lower meaning in life than normal controls (Nicholson et al. 1994). These studies certainly suggest that meaning in life is a construct that is worthy of future research and potentially a very important construct in the treatment of drug abuse.

There are several areas of future research that might be considered. First, the researcher plans to conduct additional ex post facto examination of the data. A great deal of information is available for study which was not included as a part of the focus of the thesis. For example, the relationship between meaning in life and religiosity will be studied. Additional analyses of sensation seeking will also be conducted. Another area of potential research is the validation of the REI. Perhaps the instrument could be used to identify drug dependency early in its progression. The instrument appears to have promise, but extensive validation research is needed before its true usefulness can be determined. Another ambitious project would include a longitudinal study of meaning in life and addiction. Such a study would be the logical progression in an attempt to address the real issues of causality. Hopefully, these projects could be considered and developed in the future.

However, the project of most interest to the investigator focuses on the implications of the present study. If we hypothesize that lack of meaning in life

contributes in some way to drug dependence then prevention programs should address meaning in life. Drug abuse treatment programs that follow an AA model address spiritual and existential concerns. However, few prevention programs are comprehensive enough to include an existential component. It would be challenging to take the existential concepts measured, for example, by the LAP-R and translate them into objectives for a prevention program and then evaluate the effectiveness of the program. Also existing prevention programs could be reviewed to determine the degree to which they incorporate existential concepts. If, for example, a prevention program emphasizes the importance of setting goals, the goal setting could be interpreted within a broader existential framework. Prevention programs may indeed include important existential components, but historically such components have not received an existential interpretation.

To summarize, global measures of meaning in life were significantly lower for high risk individuals. Also specific subscale measures of Purpose, Coherence, Death Acceptance, Existential Vacuum and Goal Seeking were significantly related to risk. Thus, consistent with the hypothesis, meaning in life was significantly related to risk for drug dependence within this college student sample. The same relationship was noted by Nicholson et al. (1994) when examining meaning in life within a drug addicted

sample. This study along with the Nicholson et al. (1994) companion study present compelling evidence that meaning in life is an important factor, one certainly worthy of additional research, in understanding drug dependence.

APPENDIX A

INFORMED CONSENT FORM

I HAVE BEEN INFORMED THAT THE STUDY IN WHICH I AM ABOUT TO PARTICIPATE IS INVESTIGATING THE ATTITUDES AND BEHAVIORS OF COLLEGE STUDENTS CONCERNING DRUG USE. I HAVE ALSO BEEN INFORMED THAT I WILL BE ASKED OTHER QUESTIONS CONCERNING MY BELIEFS AND ATTITUDES.

BY CHOOSING TO PARTICIPATE, I AGREE TO FOLLOW THE INSTRUCTIONS ON EACH QUESTIONNAIRE AND ANSWER THE QUESTIONS HONESTLY AND ACCURATELY. I UNDERSTAND THAT THE RESPONSES THAT I GIVE WILL BE KEPT COMPLETELY CONFIDENTIAL.

NAME (PRINTED) _____

I HEREBY GIVE MY PERMISSION TO PARTICIPATE IN THIS INVESTIGATION.

SIGNATURE _____

DATE _____

SIGNATURE OF PERSON OBTAINING CONSENT FORM _____

APPENDIX B

DEMOGRAPHIC DATA FORM (DDF)

1. University Name: _____

2. Class enrolled in: _____

3. Age: _____

4. Gender: _____ Male
   _____ Female

5. Classification: _____ Freshman
   _____ Sophomore
   _____ Junior
   _____ Senior
   _____ Graduate

6. Ethnic Identification: _____ Asian/Pacific Islander
   _____ Black
   _____ Hispanic
   _____ Native American
   _____ White
   _____ Other

SPACE BELOW IS FOR THE RESEARCHERS USE.

---

1. Subject Number _____
2. SMAST _____
3. PU _____
4. CO _____
5. LC _____
6. DA _____
7. EV _____
8. GS _____
9. PMI _____
10. LABI _____
11. PIL _____
12. Risk _____

APPENDIX C

The Short Michigan Alcoholism Screening Test (SMAST)

Yes	No		
___	___	1.	Do you feel you are a normal drinker? (By normal we mean you drink less than or as much as most other people.)
___	___	2.	Does your wife, husband, a parent, or other near relative ever worry or complain about your drinking.
___	___	3.	Do you ever feel guilty about your drinking?
___	___	4.	Do friends or relatives think you are a normal drinker?
___	___	5.	Are you able to stop drinking when you want to?
___	___	6.	Have you ever attended a meeting of Alcoholics Anonymous?
___	___	7.	Has drinking ever created problems between you and your wife, husband, a parent, or other near relative?
___	___	8.	Have you ever gotten into trouble at work because of drinking?
___	___	9.	Have you ever neglected your obligations, your family, or your work for two or more days in a row because you were drinking?
___	___	10.	Have you ever gone to anyone for help about your drinking?
___	___	11.	Have you ever been in a hospital because of drinking?
___	___	12.	Have you ever been arrested for drunken driving, driving while intoxicated, or driving under the influence of alcoholic beverages?
___	___	13.	Have you ever been arrested, even for a few hours, because of other drunken behavior?

APPENDIX D

LIFE ATTITUDE PROFILE-REVISED (LAP-R)

(c) Gary T. Reker

This questionnaire contains a number of statements related to opinions and feelings about yourself and life in general. Read each statement carefully, then indicate the extent to which you agree or disagree by circling one of the alternative categories provided. For example, if you STRONGLY AGREE, circle SA following the statement. If you MODERATELY DISAGREE, circle MD. If you are UNDECIDED, circle U. Try to use the undecided category sparingly.

SA	A	MA	U	MD	D	SD
STRONGLY AGREE	AGREE	MODERATELY AGREE	UNDECIDED	MODERATELY DISAGREE	DISAGREE	STRONGLY DISAGREE

1.	My past achievements have given my life meaning and purpose.	SA	A	MA	U	MD	D	SD
2.	In my life I have very clear goals and aims.	SA	A	MA	U	MD	D	SD
3.	I regard the opportunity to direct my life as very important.	SA	A	MA	U	MD	D	SD
4.	I seem to change my main objectives in life.	SA	A	MA	U	MD	D	SD
5.	I have discovered a satisfying life purpose.	SA	A	MA	U	MD	D	SD
6.	I feel that some element which I can't quite define is missing from my life.	SA	A	MA	U	MD	D	SD
7.	The meaning of life is evident in the world around us.	SA	A	MA	U	MD	D	SD
8.	I think I am generally much less concerned about death than those around me.	SA	A	MA	U	MD	D	SD
9.	I feel the lack of and a need to find a real meaning and purpose in my life.	SA	A	MA	U	MD	D	SD
10.	New and different things appeal to me.	SA	A	MA	U	MD	D	SD

SA	A	MA	U	MD	D	SD
STRONGLY AGREE	AGREE	MODERATELY AGREE	UNDECIDED	MODERATELY DISAGREE	DISAGREE	STRONGLY DISAGREE

11.	My accomplishments in life are largely determined by my own efforts.	SA	A	MA	U	MD	D	SD
12.	I have been aware of an all powerful and consuming purpose towards which my life has been directed.	SA	A	MA	U	MD	D	SD
13.	I try new activities or areas of interest and then these soon lose their attractiveness.	SA	A	MA	U	MD	D	SD
14.	I would enjoy breaking loose from the routine of life.	SA	A	MA	U	MD	D	SD
15.	Death makes little difference to me one way or another.	SA	A	MA	U	MD	D	SD
16.	I have a philosophy of life that gives my existence significance.	SA	A	MA	U	MD	D	SD
17.	I determine what happens in my life.	SA	A	MA	U	MD	D	SD
18.	Basically, I am living the kind of life I want to live.	SA	A	MA	U	MD	D	SD
19.	Concerning my freedom to make my choice, I believe I am absolutely free to make all life choices.	SA	A	MA	U	MD	D	SD
20.	I have experienced the feeling that while I am destined to accomplish something important, I cannot put my finger on just what it is.	SA	A	MA	U	MD	D	SD
21.	I am restless.	SA	A	MA	U	MD	D	SD
22.	Even though death awaits me, I am not concerned about it.	SA	A	MA	U	MD	D	SD
23.	It is possible for me to live my life in terms of what I want to do.	SA	A	MA	U	MD	D	SD
24.	I feel the need for adventure and "new worlds to conquer."	SA	A	MA	U	MD	D	SD

SA	A	MA	U	MD	D	SD
STRONGLY AGREE	AGREE	MODERATELY AGREE	UNDECIDED	MODERATELY DISAGREE	DISAGREE	STRONGLY DISAGREE

25.	I would neither fear death nor welcome it.	SA	A	MA	U	MD	D	SD
26.	I know where my life is going in the future.	SA	A	MA	U	MD	D	SD
27.	In thinking of my life, I see a reason for my being here.	SA	A	MA	U	MD	D	SD
28.	Since death is a natural aspect of life, there is no sense worrying about it.	SA	A	MA	U	MD	D	SD
29.	I have a framework that allows me to understand or make sense of my life.	SA	A	MA	U	MD	D	SD
30.	My life is in my hands and I am in control of it.	SA	A	MA	U	MD	D	SD
31.	In achieving life's goals, I have felt completely fulfilled.	SA	A	MA	U	MD	D	SD
32.	Some people are very frightened of death, but I am not.	SA	A	MA	U	MD	D	SD
33.	I daydream of finding a new place for my life and a new identity.	SA	A	MA	U	MD	D	SD
34.	A new challenge in my life would appeal to me now.	SA	A	MA	U	MD	D	SD
35.	I have the sense that parts of my life fit together into a unified pattern.	SA	A	MA	U	MD	D	SD
36.	I hope for something exciting in the future.	SA	A	MA	U	MD	D	SD
37.	I have a mission in life that gives me a sense of direction.	SA	A	MA	U	MD	D	SD
38.	I have a clear understanding of the ultimate meaning of life.	SA	A	MA	U	MD	D	SD
39.	When it comes to important life matters, I make my own decisions.	SA	A	MA	U	MD	D	SD

SA	A	MA	U	MD	D	SD
STRONGLY AGREE	AGREE	MODERATELY AGREE	UNDECIDED	MODERATELY DISAGREE	DISAGREE	STRONGLY DISAGREE

40.	I find myself withdrawing from life with an "I don't care" attitude.	SA	A	MA	U	MD	D	SD
41.	I am eager to get more out of life than I have so far.	SA	A	MA	U	MD	D	SD
42.	Life to me seems boring and uneventful.	SA	A	MA	U	MD	D	SD
43.	I am determined to achieve new goals in the future.	SA	A	MA	U	MD	D	SD
44.	The thought of death seldom enters my mind.	SA	A	MA	U	MD	D	SD
45.	I accept personal responsibility for the choices I have made in my life.	SA	A	MA	U	MD	D	SD
46.	My personal existence is orderly and coherent.	SA	A	MA	U	MD	D	SD
47.	I accept death as another life experience.	SA	A	MA	U	MD	D	SD
48.	My life is running over with exciting good things.	SA	A	MA	U	MD	D	SD

APPENDIX E

Name _____ Date _____

Age _____ Sex _____ Classification _____

P I L

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PART A

For each of the following statements, circle the number that would be most nearly true for you. Note that the numbers always extend from one extreme feeling to its opposite kind of feeling. "Neutral" implies no judgment either way; try to use this rating as little as possible.

1. I am usually:

1	2	3	4	5	6	7
completely bored			(neutral)			exuberant, enthusiastic

2. Life to me seems:

7	6	5	4	3	2	1
always exciting			(neutral)			completely routine

3. In life I have:

1	2	3	4	5	6	7
no goals or aiims at all			(neutral)			Very clear goals and aims

4. My personal existence is:

1	2	3	4	5	6	7
Utterly meaningless without purpose			(neutral)			Very purposeful and meaningful

5. Every day is:

7	6	5	4	3	2	1
constantly new			(neutral)			exactly the same

6. If I could choose, I would:

1	2	3	4	5	6	7
prefer never to have been born			(neutral)			Like nine more lives just like this one

7. After retiring, I would:

7	6	5	4	3	2	1
do some of the exciting things I have always wanted to do			(neutral)			loaf completely the rest of my life

8. In achieving life goals I have:

1	2	3	4	5	6	7
made no progress whatever			(neutral)			progressed to complete fulfillment

9. My life is:

1	2	3	4	5	6	7
empty, filled only with despair			(neutral)			running over with exciting good things

10. If I should die today, I would feel that my life has been:

7	6	5	4	3	2	1
very worthwhile			(neutral)			completely worthless

11. In thinking of my life, I:

1	2	3	4	5	6	7
often wonder why I exist			(neutral)			always see a reason for my being here

12. As I view the world in relation to my life, the world:

1	2	3	4	5	6	7
completely confuses me			(neutral)			fits meaningfully with my life

13. I am a:

1	2	3	4	5	6	7
very irresponsible person			(neutral)			very responsible

14. Concerning man's freedom to make his own choices, I believe man is:

7	6	5	4	3	2	1
absolutely free to make all life choices			(neutral)			completely bound by limitations of heredity and environment

15. With regard to death, I am:

7	6	5	4	3	2	1
prepared and unafraid			(neutral)			unprepared and frightened

16. With regard to suicide, I have:

1	2	3	4	5	6	7
thought of it seriously as a way out			(neutral)			never given it a second thought

17. I regard my ability to find a meaning, purpose, or mission in life as:

7	6	5	4	3	2	1
very great			(neutral)			practically none

18. My life is:

7	6	5	4	3	2	1
in my hands and I am in control of it			(neutral)			out of my hands and controlled by external factors

19. Facing my faily tasks is:

7	6	5	4	3	2	1
a source of pleasure and satisfaction			(neutral)			a painful and boring experience

20. I have discovered:

1	2	3	4	5	6	7
no mission or purpose in life			(neutral)			clear-cut goals and a satisfying life purpose

APPENDIX F

Risk Evaluation Inventory (REI)

Answer the following questions accurately and honestly. Please put your answer in the blank that is provided. All responses are confidential.

____ 1. What is your current overall college GPA?

____ 2. In college, have you ever been on academic probation?
a. yes
b. no

____ 3. What was your overall high school GPA?

____ 4. In terms of the stress that you experience here in college, which of the following best describes you?
a. I'm often "stressed out."
b. Sometimes I get "stressed out."
c. I hardly ever get "stressed out."

____ 5. In thinking about your mood, which of the following best describes you?
a. I get depressed quite often.
b. I get depressed occasionally.
c. I rarely get depressed.

____ 6. Have you received prescription medication for depression in the last two years?
a. Yes
b. No

____ 7. Have you received prescription medication for anxiety in the last two years?
a. Yes
b. No

____ 8. Are you a member of a particular religious group?
a. Yes
b. No
If yes, please name the group _____

____ 9. Which of the following best describes your religious involvement?
a. I am actively involved in religious activities.
b. Sometimes I get involved in religious activities.
c. I rarely ever get involved with religious activities.

____10. I attend church or religious service:
a. at least once a week
b. two or three times a month
c. once a month
d. rarely
e. never

____11. My religious beliefs are what really lie behind my whole approach to life.
a. True
b. False

____12. Which of the following best describes your mother's pattern of alcohol consumption?
a. She never drinks.
b. She only drinks at special occasions - marriage, etc.
c. She drinks moderately.
d. She is a heavy drinker.

____13. Which of the following best describes your father's pattern of alcohol consumption?
a. He never drinks.
b. He only drinks at special occasions - marriage, etc.
c. He drinks moderately.
d. He is a heavy drinker.

____14. Have you ever seen a family member using an illegal drug?
a. Yes
b. No

____15. Do you have a blood relative who has received treatment for alcoholism?
a. Yes
b. No
If yes, relation to you _____

____16. In describing the alcohol consumption of my closest friends, I would say that they:
a. rarely drink alcohol
b. occasionally drink alcohol
c. regularly drink alcohol
d. are heavy alcohol drinkers

____17. Do you have any close friends who use illegal drugs (includes marijuana)?
a. Yes
b. No

____18. How old were you when you tried your first drug (this includes alcohol and tobacco)? Put your age in years; a zero indicates that you have not used any drug.

____19. How old were you when you first became intoxicated with alcohol? Put your age in years; a zero indicates that you have never been intoxicated.

IN THE LAST 30 DAYS ON APPROXIMATELY HOW MANY DAYS HAVE YOU USED THE FOLLOWING DRUGS? Put the number in the appropriate blank (0-30).

_____20. Tobacco (any form)

_____21. Alcohol

_____22. Marijuana

_____23. Cocaine

_____24. Amphetamines

_____25. Sedatives

_____26. Hallucinogens

_____27. Opiates

_____28. Inhalants

_____29. Steroids

____30. Have you ever received in-patient or out-patient services for any type of drug abuse (including alcohol)?
a. Yes
b. No

____31. A. I can't wait to get into the indoors on a cold day.
B. I am invigorated by a brisk, cold day.

____32. A. I would like to hitchhike across the country.
B. Hitchhiking is too dangerous a way to travel.

____33. A. I would like to go water-skiing.
B. I would not like to go water-skiing.

____34. A. I can't stand watching a movie that I've seen before.
B. There are some movies I enjoy seeing a second or even a third time.

____35. A. I would not like to learn to fly an airplane.
B. I would like to learn to fly an airplane.

____36. A. A person should have some sexual experience before marriage.
B. It's better if two married persons begin their sexual experience with each other.

____37. A. There is altogether too much portrayal of sex in movies.
B. I enjoy watching many of the "sexy" scenes in movies.

____38. A. People who ride motorcycles must have some kind of an unconscious need to hurt themselves.
B. I would like to drive or ride on a motorcycle.

____39. A. I would like to go scuba diving.
B. I prefer the surface of the water to the depths.

____40. A. I enjoy spending time in the familiar surroundings of home.
B. I get very restless if I have to stay around home for any length of time.

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